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(19) **United States**(12) **Patent Application Publication****Wang et al.**(10) **Pub. No.: US 2004/0254419 A1**(43) **Pub. Date: Dec. 16, 2004**(54) **THERAPEUTIC ASSEMBLY**

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(57) **ABSTRACT**

A therapeutic assembly that contains a therapeutic agent, a cytotoxic radioactive material, and a nanomagnetic material with nanomagnetic particles. The nanomagnetic particles have an average particle size of less than about 100 nanometers; and the average coherence length between adjacent nanomagnetic particles is less than 100 nanometers. The nanomagnetic material has a saturation magnetization of from about 2 to about 3000 electromagnetic units per cubic centimeter, a phase transition temperature of from about 40 to about 200 degrees Celsius, and a saturation magnetization of from about 2 to about 3,000 electromagnetic units per cubic centimeter

